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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/662,662	09/15/2003	Simon Anne de Molina	1316N-001683	1855

27572 7590 10/18/2005

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EXAMINER

WILLIAMS, THOMAS J

ART UNIT	PAPER NUMBER
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3683

DATE MAILED: 10/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/662,662

Applicant(s)

MOLINA ET AL.

Examiner

Thomas J. Williams

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-7 and 9-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-7 and 9-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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### DETAILED ACTION

1. Acknowledgment is made in the receipt of the amendment filed August 26, 2005.

#### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1, 3-7, 10, 11 and 13-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 4,823,922 to Ergun in view of US 3,432,008 to Henry-Biabaud.

Re-claims 1, 3-7, 10, 11 and 14-17, Ergun teaches a shock absorber and shock absorber piston assembly, comprising: a tube (or piston tube) forming a pressure chamber; a piston assembly slidably engages the tube; a shock absorber piston having opposite faces; a plurality of fluid passages extending between the opposite faces; a plurality of single direction valves attached to the piston, including: at least two single direction rebound valves and at least two single direction compression valves; Ergun further teaches that the valves can be designed to

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actuate at different opening pressures to achieve a desired damping characteristic, see column 5 lines 46-47, this is broadly interpreted to teach the valves as being capable of actuating at a different individually adjustable rebound valve opening pressure and at a different individually adjustable compression valve opening pressure; a shock absorber fluid is in contact with the first and second face of the piston, each rebound valves controls a first direction fluid flow and each compression valve controls a second direction fluid flow. However, Ergun fails to teach the adjustable valves having the claimed structure.

Henry-Biabaud teaches a valve element for a shock absorber having a means of easily adjusting the preload of the valve and thus the opening pressure of the valve. The valve comprises: a pin having a threaded connection end (the end threaded with nut 19); a compressible device 17 (being a coiled spring) creates a preload for urging the valve into a closed position; a fastener 19 is threaded to the connection end, the fastener operably engages the compression device, the fastener comprises a threaded nut that is used to vary the preload; (claim 6) valve element 6 is provided with a bleed line 7, thus element 6 is broadly interpreted as a bleed disc; (claims 7 and 14) the flange portion of the nut 19 is interpreted as being a washer since it is functionally equivalent to a washer, the flange is located between the fastener and the spring, the portion of the valve that engages the seat 12 is interpreted as a valve plate, since upon engagement with the seat it will operably seal the fluid passage; (claim 15) the valve plate engages a land 12 adjacent to each fluid passage when in a closed position. It is further noted by the examiner that each valve unit in Ergun comprises two valves 3 and 6, each opens at a different pressure, see column 2 lines 44-72 to column 3 lines 1-7.

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It would have been obvious to one of ordinary skill in the art to have utilized the adjustable valve taught by Henry-Biabaud in the piston assembly of Ergun, thus providing the artisan with the ability to easily vary the preload of the valve (by simply rotating the nuts) rather than having to modify parts as currently envisioned by Ergun (see column 5 lines 46-47). This would reduce the number of required parts for assembly, thus reducing the cost of manufacturing the piston and valve assembly.

Re-claim 12, the reservoir of Ergun contains gas, which will migrate through the fluid.

Re-claim 13, Ergun teaches that the damping fluid is a hydraulic fluid, hydraulic fluids commonly used in shock absorbers contain oil and are thus hydrocarbon based liquids.

Re-claim 18, the piston rod comprises a first end 12 adapted for connection to an automobile vehicle.

Re-claim 19, Ergun teaches a tubular end 20 slidably disposed over the piston tube 16 and a freely extending end of the piston rod 36; and a second end fitting 12 fitting attached to the freely extending end of the piston rod for attachment to a vehicle.

5. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ergun in view of Henry-Biabaud as applied to claim 1 above, and further in view of US 4,596,321 to Harper et al.

Ergun as modified by Henry-Biabaud fail to teach using at least one shim disc between the waster and the spring to vary a preload of the spring. Harper et al. teach the use of a shim disc for varying a preload of a spring associated with a spring-biased valve. It would have been obvious to one of ordinary skill in the art to have utilized the teachings of Harper et al. regarding the use of shim disc when having to vary the preload of the valves in Ergun as modified by Henry-Biabaud, the shims would have provided a greater range of attainable preloads.

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6. Claims 20, 21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ergun in view of Henry-Biabaud and in view of US 4,624,346 to Katz.

Re-claims 20 and 21, Ergun teaches a method to dampen a vehicle ride deflection, comprising: orienting at least two single direction rebound valves and at least two single direction compression valves in a piston, the valves are separated from each other. Ergun further teaches that the valves can be designed to actuate at different opening pressures to achieve a desired damping characteristic, see column 5 lines 46-47. However, Ergun fails to teach a rotatable nut used to adjust the sequential opening operation of the rebound and compression valves.

Henry-Biabaud teaches a compression and rebound valve having a nut for varying the opening pressure of the valve. It would have been obvious to one of ordinary skill in the art to have utilized the adjustable valve taught by Henry-Biabaud in the piston assembly of Ergun, thus providing the artisan with the ability to easily vary the preload of the valve (by simply rotating the nut 19) rather than having to modify parts as currently envisioned by Ergun (see column 5 lines 46-47). This would reduce the number of required parts for assembly, thus reducing the cost of manufacturing the piston and valve assembly.

Ergun as modified by Henry-Biabaud fail to teach having the rebound and compression valves open in a sequential manner. Katz teaches a method for damping a vehicle ride using a shock absorber with rebound and compression valves that open in a sequential order. It would have been obvious to one of ordinary skill in the art to have utilized the teachings of Katz when having set the opening pressures of the valves in Ergun, thus providing a wide damping range for the shock absorber and improving the comfort level for the passengers in the vehicle.

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Re-claim 23, the diameter of the fluid passage defined by the seat and the valve element is varied during operation, the degree of change is a consequence of the preload force on the spring.

7. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ergun in view of Henry-Biabaud and Katz as applied to claim 20 above, and further in view of US 4,596,321 to Harper et al.

Ergun as modified by Henry-Biabaud and Katz fail to teach shimming at least one of the compression and/or rebound valves. Harper et al. teach the use of shim disc for varying a preload of a spring associated with a spring-biased valve. It would have been obvious to one of ordinary skill in the art to have utilized the teachings of Harper et al. regarding the use of a shim disc when having to vary the preload of the valves in Ergun as modified by Henry-Biabaud and Katz, the shimming would have provided a greater range of attainable preloads.

#### ***Response to Arguments***

8. Applicant's arguments filed August 26, 2005 have been fully considered but they are not persuasive. It is noted that the rejection proposes the substitution of the valves in Ergun with the valves taught by Henry-Biabaud. Wherein, Henry-Biabaud teaches the use of individually adjustable valves in damper assemblies to obtain a desired damping effect. This would allow for easier modification of the damping valves as warranted, and as envisioned by Ergun. Ergun clearly discloses that the damping characteristics of the valves can be modified to effect the desired damping characteristics, see column 5. It is the opinion of the examiner that the desired damping characteristics would be determined upon the intended use of the damper, and any adjustment would be carried out by the artisan. Thus by using the valves of Henry-Biabaud in

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the damper of Ergun one would eliminate the need for having on hand springs and pins of different characteristics, since the valves as taught by Henry-Biabaud are easily adjustable by simple manipulation of the nut element.

***Conclusion***

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

10. Any inquiries concerning this communication or earlier communications from the examiner should be directed to Thomas Williams whose telephone number is 571-272-7128. The examiner can normally be reached on Monday-Thursday from 6:30 AM to 4:00 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James McClellan, can be reached at 571-272-6786. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-6584.

TJW

October 14, 2005

THOMAS WILLIAMS  
PATENT EXAMINER

Thomas Williams

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10-14-05